WHAT IS CLAIMED IS:

1. A magnetic carrier for a biological substance, which has a saturation magnetization of 10-80 $A \cdot m^2/kg$ and a coercive force of 0.80-15.92 kA/m.

2. A magnetic carrier for a biological substance, which is capable of the following (a) - (c):
(a) dispersing in an amount of at least 20 mg in 1 mL of an aqueous solution of a sample containing a biological substance,
(b) being collected by not less than 90 wt% within 3 seconds in the presence of a magnetic field of 2000-3000 gauss, and
(c) reversibly binding with at least 0.4 μg of the biological substance per 1 mg thereof.

3. The magnetic carrier of claim 1, having a saturation magnetization of 30-80 $A \cdot m^2/kg$, a coercive force of 2.39-11.94 kA/m and an average particle size of 0.1-10 μm.

4. The magnetic carrier of claim 3, which is capable of the following (a) - (c):
(a) dispersing in an amount of at least 20 mg in 1 mL of an aqueous solution of a sample containing a biological substance,
(b) being collected by not less than 90 wt% within 3 seconds in the presence of a magnetic field of 2000-3000 gauss, and
(c) reversibly binding with at least 0.4 μg of the biological substance per 1 mg thereof.

5. The magnetic carrier of claim 3 or 4, which is a ferromagnetic iron oxide particle coated with silica.

6. The magnetic carrier of claim 5, wherein the ferromagnetic iron oxide particle is a magnetite particle.

7. The magnetic carrier of claim 3, which is used for binding a nucleic acid, comprises a ferromagnetic iron oxide particle having an aspect ratio of 1.0-1.2 and silica coating said particle in a proportion of 3-100 wt% of said particle, and which has an average particle size of 0.1-0.5 μm.

8. The magnetic carrier of claim 7, wherein the ferromagnetic iron oxide particle is selected from the group consisting of a magnetite particle, a maghemite particle and a manganese zinc ferrite particle.

9. A magnetic carrier for nucleic acid comprising a ferromagnetic iron oxide particle and a compound coating the particle, which comprises silicon and aluminum.

10. The magnetic carrier of claim 9, wherein the ferromagnetic iron oxide particle is selected from the group consisting of a magnetite particle, a maghemite particle, a magnetite maghemite intermediate particle and a manganese zinc ferrite particle.

11. The magnetic carrier of claim 9 or 10, wherein the compound has an aluminum content of 0.1-40 wt% of the total amount of silicon and aluminum.

12. The magnetic carrier of any of claims 9 to 11, wherein the compound is comprised in a proportion of 3-100 wt% of the ferromagnetic iron oxide particle.

13. The magnetic carrier of any of claims 9 to 12, wherein the compound is an oxide.

14. The magnetic carrier of any of claims 9 to 13, having an

aspect ratio of 1.0–1.2, an average particle size of 0.1–10 μm, a coercive force of 0.80–15.92 kA/m and a saturation magnetization of 10–80 $A \cdot m^2/kg$.

15. Use of the magnetic carrier of any of claims 1 to 10 for binding a biological substance by bringing the carrier into contact with the biological substance in an aqueous solution of a sample containing the biological substance.

16. The use of claim 15, wherein the biological substance is a nucleic acid.

17. A method of isolating a biological substance, which comprises forming a complex of a biological substance and a magnetic carrier by bringing the magnetic carrier of any of claims 1 to 10 into contact with said biological substance in an aqueous solution of the sample containing the biological substance,
separating the complex from the sample by an external magnetic field, and
eluting the biological substance from the complex.

18. The method of claim 17, wherein the biological substance is a nucleic acid.

19. A production method of the magnetic carrier of claim 7 or 8, which comprises adding, for neutralization, an acid to an aqueous suspension comprising a ferromagnetic iron oxide particle having an aspect ratio of 1.0–1.2 dispersed therein and sodium silicate dissolved therein, wherein, in said aqueous suspension, the amount of the ferromagnetic iron oxide is 1–10 wt% of water and the amount of the sodium silicate is 0.3–2 wt% of water, on conversion to SiO_2.

20. The production method of claim 19, further comprising a heat treatment of the carrier in an inert gas.

21. A production method of the magnetic carrier of claim 5 or 6, comprising subjecting ferromagnetic iron oxide coated with silica to a heat treatment at 200-800°C.

22. The production method of claim 21, wherein the heat treatment is conducted in an atmospheric gas of an inert gas or a reducing gas.

23. The production method of claim 21 or 22, wherein the ferromagnetic iron oxide particle is synthesized by oxidation in an aqueous solution and applied to a silica coating treatment without drying.

24. A production method of the magnetic carrier of any of claims 9 to 14, which comprises
adding, for neutralization, an acid to an aqueous suspension comprising a ferromagnetic iron oxide particle dispersed therein and silicate and an aluminum salt dissolved therein to allow precipitation of a compound comprising silicon and aluminum,
filtrating the aqueous suspension to give a solid,
drying the solid, and
subjecting the solid to a heat treatment in an inert gas.